



## Verizon VA Recurring Cost Panel Surrebuttal Testimony

1    **IV.    LOOP COSTS**  
2            **(JDPL Issues II-1 TO II-1-d; II-2-c-d; IV-30; IV-36)**

3    **Q.    Please summarize this section of the testimony.**

4    A.    In this section, we address the AT&T/WorldCom Rebuttal Panel's  
5           criticisms of Verizon VA's loop studies. Among other things, we show:

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7           • that the AT&T/WorldCom Rebuttal Panel's critique of the Verizon  
8           VA study as an "embedded" rather than a TELRIC-compliant study is  
9           unfounded;

10          • that both Verizon VA's engineering survey and VRUC are reliable  
11          sources of the data for which each was used; and

12          • that the fill factors used for the distribution, feeder, RT electronics and  
13          other elements that make up the loop UNE are entirely appropriate and  
14          significantly more realistic — particularly in the context of the very  
15          real service requirements imposed on Verizon VA by the Virginia  
16          State Corporation Commission — than the entirely hypothetical  
17          factors proposed by AT&T/WorldCom's witnesses.

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1           A.     **VERIZON'S ENGINEERING SURVEY IS**  
2                   **ENTIRELY RELIABLE AND USE OF THE SURVEY**  
3                   **ROUTE DATA AND EXISTING DISTRIBUTION**  
4                   **AREAS IS FULLY CONSISTENT WITH TELRIC**

5                   **1.     The Engineering Survey**

6    **Q.     Please describe the "engineering survey" used by Verizon VA and**  
7           **criticized by AT&T/WorldCom.**

8    A.     Verizon conducted an engineering survey between 1993 and 1995 that  
9           studied various elements of the network, including loop characteristics  
10          such as length and structure type, throughout the seven jurisdictions  
11          comprising the original Bell Atlantic territory (NJ, PA, DE, DC, WV, VA  
12          and MD). The survey was conducted at great expense and effort. In  
13          Virginia, the survey covered almost 9000 UAAs. To identify the  
14          requested information, Verizon's engineers consulted various detailed  
15          records such as plats (which show the location, size, and length of each  
16          cable), feeder route schematics, outside plant maps, and other documents  
17          containing detailed information about Verizon's outside plant facilities.  
18          Verizon VA utilized the loop lengths, structure types, and copper feeder  
19          cable sizes from that survey in its cost studies in these proceedings.

20

21   **Q.     What are the AT&T/WorldCom Rebuttal Panel's criticisms of the**  
22           **Verizon engineering survey? [AT&T/WorldCom Rebuttal Panel at**  
23           **12-16.]**

24   A.     The AT&T/WorldCom Rebuttal Panel charges that because Verizon VA's  
25          studies use data from the engineering survey, they are "based on the

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1 embedded plant construct” and “failed to recognize any meaningful  
2 efficiencies that would be available to a new entrant under the scorched-  
3 node environment contemplated by TELRIC.”<sup>44/</sup> The AT&T/WorldCom  
4 Rebuttal Panel also raises complaints about the survey process itself,  
5 including the allegation that Verizon VA’s engineers “encountered a  
6 number of difficulties filling out the survey materials,” that the form  
7 included “a stopgap answer” that may have distorted the results of the  
8 survey, and that Verizon VA failed to apply certain proposed remedies to  
9 correct problems with the survey.<sup>45/</sup> As explained below, however, the  
10 Panel’s criticisms are unfounded.

11  
12 **Q. Please respond to AT&T/WorldCom’s argument that Verizon VA’s**  
13 **use of the engineering survey was not TELRIC-compliant.**  
14 **[AT&T/WorldCom Rebuttal Panel at 12-14.]**

15 A. Verizon designed the survey process so that it would identify relevant  
16 cable route characteristics (including the use of aerial, underground, and  
17 buried cable) that are determined by the location of existing wire centers,  
18 geographical features, homes and office buildings, and the like. The  
19 information produced by such a study is valuable and reliable over the  
20 long term, and thus worth the enormous effort, and expense, precisely  
21 because, even over time, these network characteristics *are not likely to*

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<sup>44/</sup> AT&T/WorldCom Rebuttal Panel at 12.

<sup>45/</sup> AT&T/WorldCom Rebuttal Panel at 14-15.

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1        *change*. Thus, while AT&T/WorldCom seek to discredit the engineering  
2        survey because it was “conducted by . . . outside plant engineers in the  
3        early 1990s,”<sup>46/</sup> Verizon VA’s studies use the engineering survey data  
4        solely to model these largely *static* characteristics of the network, which  
5        will exist in the forward-looking network just as they exist today.

6  
7            Moreover, the AT&T/WorldCom Rebuttal Panel wrongly seeks to  
8        portray all of Verizon VA’s loop costs as “based on the embedded plant  
9        construct” due to Verizon’s use of the engineering survey data.<sup>47/</sup> That  
10       data, as noted, was used only for determining the length of cable routes,  
11       structure type (*i.e.*, underground, buried or aerial), and predominant  
12       copper feeder cable size throughout Verizon VA’s network. Verizon VA  
13       calculated other loop characteristics without regard to what  
14       AT&T/WorldCom refer to as the “embedded plant.” For example, as  
15       explained in the Verizon Panel Direct, the LCAM model assumes the  
16       widespread substitution of fiber feeder cable in place of existing copper  
17       feeder; the loop cost assumes that fiber feeder will be used for 82% of the  
18       loops, as compared to 33% percent in Verizon VA’s existing network.  
19       Similarly, where appropriate, Verizon VA adjusted its utilization factors  
20       upward, based on engineering assumptions concerning forward-looking  
21       improvements, and the amount of IDLC, and specifically GR-303, in the

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<sup>46/</sup> AT&T/WorldCom Rebuttal Panel at 12.

<sup>47/</sup> *Id.*

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1 network were calculated based on forward-looking, aggressive  
2 assumptions. Thus, first, the engineering survey by no means produced  
3 “embedded” data that would change in a forward-looking network.  
4 Rather, it produced critical data concerning loop characteristics that will  
5 be present and unlikely to change in the forward-looking network. And  
6 second, relying on this data clearly does not limit the studies to mimicking  
7 the “embedded” network actually operated by Verizon VA today.

8  
9 **Q. Is the AT&T/WorldCom Rebuttal Panel right that it would be more**  
10 **appropriate to use a scorched-node approach to determine loop**  
11 **routes, because in the forward-looking network, there might be more**  
12 **efficient ways to route cables that were laid in previous years?**

13 **[AT&T/WorldCom Rebuttal Panel at 12, 15.]**

14 A. No. The AT&T/WorldCom Rebuttal Panel’s only support for this  
15 contention is speculation that Verizon VA could have built a feeder route  
16 around a hypothetical tract of land that was undeveloped 25 years ago.  
17 The Panel speculates that while Verizon VA “might have placed conduit  
18 around the perimeter of the tract” many years ago, roadways might now  
19 lace that tract of land, so that, if Verizon VA were rebuilding its network  
20 today, it might lay the feeder along such roadways, which  
21 AT&T/WorldCom suggest would be more efficient.<sup>48/</sup>

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<sup>48/</sup> AT&T/WorldCom Rebuttal Panel at 15.

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1           That AT&T/WorldCom are reduced to relying on this one lone,  
2           entirely speculative, and clearly uncommon example completely  
3           undermines the credibility of any argument that loop routes could be re-  
4           designed more efficiently today. Furthermore, their argument is simply  
5           wrong. Even under the economically incorrect “scorched-node” approach,  
6           several factors would in fact make it *more* difficult and costly to place  
7           feeder routes today — even assuming the existence of some shorter feeder  
8           routes that AT&T/WorldCom speculate might have become available over  
9           time in some rare instances. For example, Verizon VA was able to place a  
10          substantial number of cable facilities along railroad and other private  
11          rights-of-way years ago, before rights-of-way owners began viewing the  
12          placement of such cables as significant revenue-raising opportunities. In  
13          many cases, then, it would be far more costly to negotiate the necessary  
14          agreements to place those cables today than it was even a few years ago.

15  
16          Likewise, in recent years, municipalities have become much more  
17          strict about when and where cables may be installed, and they have begun  
18          to charge substantially higher fees for the placement of new cables in  
19          public rights-of-way; this trend continues to grow, so such costs are likely  
20          only to increase in the future. Similarly, over the years, many areas have  
21          become designated for special protections due to the growing number of  
22          historical preservation districts and other environmentally sensitive areas;  
23          having to route around such areas today would be less, not more efficient.

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1 And many municipalities today require that all new cable be underground  
2 or buried rather than aerial; Verizon VA's network, in contrast, contains  
3 significant amounts of less expensive aerial cable — and CLECs benefit  
4 because Verizon's studies reflect its use of this less expensive cable. An  
5 all new "scorched-node" network would thus have to reflect the significant  
6 increased costs that would inevitably result.

7  
8 Indeed, it is precisely because laying all of an ILEC's cable *today*  
9 would be so prohibitively expensive that the loop is considered a  
10 "necessary" element under the 1996 Act. AT&T/WorldCom cannot have  
11 it both ways. If they believe it is appropriate to assume all new routes, and  
12 calculate Verizon VA's plant investment and expenses as if these newly  
13 laid routes were in place, then the significantly increased costs associated  
14 with actually laying the replacement routes must likewise be taken into  
15 account. In other words, AT&T/WorldCom may not simply enjoy the  
16 benefits of any lower costs resulting from allegedly shorter loops without  
17 bearing the associated additional costs of building routes today. Any other  
18 result would be not only inconsistent but also fundamentally inequitable.

19  
20 Finally, because the Verizon VA route data is concrete, it is also  
21 the only source of reliable, Virginia-specific, testable data that has been  
22 submitted in these proceedings. While AT&T/WorldCom charge that  
23 Verizon VA has not shown that its existing loop routes (and thus lengths)

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1 are the “most efficient,”<sup>49/</sup> AT&T/WorldCom’s proposed approach, which  
2 would presumably involve rerouting loops based on hypotheticals and  
3 formulas, devolves into pure speculation. There is simply no way to  
4 account for all the variables so that the illusory improved efficiencies  
5 could even be accurately estimated; AT&T/WorldCom have not even  
6 identified a testable principle for determining when a particular route  
7 should be deemed inefficient. Such a purely hypothetical approach cannot  
8 possibly result in the recovery of the real, forward-looking costs Verizon  
9 VA would incur to provide UNEs. Thus, the only rational source of route  
10 data is Verizon VA’s existing routes.

11  
12 **Q. Has the Commission recognized that the only sensible approach is one**  
13 **that recognizes existing feeder routes?**

14 A. Yes. The FCC itself has endorsed the view that ILEC cost studies may  
15 appropriately consider existing wire centers and the “fundamental”  
16 elements of “existing network design,”<sup>50/</sup> as noted above. Although  
17 AT&T/WorldCom would like to believe that the only constant in the  
18 newly constructed network they seek to hypothesize should be the location  
19 of the ILEC’s wire centers, the Commission itself has differentiated  
20 between wire centers and “existing network design,” recognizing that *both*

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<sup>49/</sup> *Id.* at 16.

<sup>50/</sup> FCC Reply Brief at 4-5. *See also* Local Competition Order at ¶ 685 (TELRIC prices should be based on efficient technology that is compatible with “existing infrastructure,” and should take “existing network design” into account).

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1 should be considered in TELRIC studies.<sup>51/</sup> There is no more fundamental  
2 element of network design than the routes from each wire center to the  
3 customers served by that wire center.  
4

5 **Q. What about AT&T/WorldCom’s criticism of the engineering survey**  
6 **process — are they correct in suggesting that the results may be**  
7 **unreliable because Verizon’s engineers supposedly “encountered a**  
8 **number of difficulties filling out the survey materials”?**  
9 **[AT&T/WorldCom Rebuttal Panel at 14.]**

10 A. No; this criticism is frivolous. AT&T/WorldCom seek to make much of  
11 the fact that, after the survey form was distributed, some engineers raised a  
12 handful of questions about how to complete a few questions in the context  
13 of certain specific circumstances. Given the breadth and depth of the  
14 survey, it would have been more surprising if *no* questions had been  
15 raised. The fact that questions were raised indicates that Verizon’s  
16 engineers took the survey process seriously and that the engineers sought  
17 any clarification necessary to provide exactly the information that was  
18 requested. Verizon responded to these questions with clear instructions  
19 that facilitated consistent, accurate survey results. This process would  
20 seem to be optimal, rather than evidence of the problem  
21 AT&T/WorldCom suggest.  
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<sup>51/</sup> *Id.*

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1           An example of the type of clarification sought illustrates the  
2           complete lack of merit to AT&T/WorldCom's argument. Some engineers  
3           sought guidance regarding how engineers in wire centers with fiber feeder  
4           facilities should address the survey form's response field regarding "the  
5           number of pairs for a typical metallic feeder cable" in each UAA.<sup>52/</sup> They  
6           asked whether, for such UAAs, they should instead provide the fiber  
7           sheath size. Verizon concluded that, because so few fiber feeder facilities  
8           had been installed in the network at the time, the existing installed fiber  
9           sheath sizes would not be representative of the cable sizes that likely  
10          would be used in the network over time. Thus, Verizon instructed its  
11          engineers to insert the character "F" (for fiber) instead of the number of  
12          strands in the sheath,<sup>53/</sup> and Verizon used other sources to determine fiber  
13          sheath size in the loop cost model submitted in this proceeding. Similarly,  
14          some engineers asked how to determine the total loop length for UAAs in  
15          which distribution cables were located entirely on a customer's property,  
16          such as on college campuses, corporate campuses, and military bases.  
17          Verizon instructed its engineers to insert the value for cumulative feeder  
18          length in the total loop length field, because the distribution cables in these  
19          areas are the customer's property, not Verizon's.<sup>54/</sup>

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<sup>52/</sup> Attachment H at 4.

<sup>53/</sup> Attachment H at 8.

<sup>54/</sup> Other questions raised by the engineers about the survey did not even concern survey data that Verizon VA has sought to use in its studies here. For example, the engineers raised questions concerning line count data. For its studies in these proceedings, Verizon VA used the LEADS database to determine

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**Q. AT&T/WorldCom allege that Verizon's responses to the engineers' inquiries were "stopgap" and that Verizon never implemented "remedies" to some survey issues that it had suggested it ultimately would adopt. [AT&T/WorldCom Rebuttal Panel at 14-15.] Please respond.**

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**A.** This overblown criticism boils down to an insignificant point. As noted above, Verizon recognized that it would be more appropriate to estimate fiber cable size outside of the survey process. The original proposed remedy to accomplish that measurement analysis was a system called BARRS that was under development at the time. Ultimately, the BARRS system was never completed. Instead, Verizon VA consulted its engineers when developing the loop cost studies for this proceeding and, based on their input, determined the fiber sheath sizes most likely to be installed in feeder routes in dense urban wire centers and other wire centers. Thus,

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the total number of working pairs, not the survey data. It is difficult to see why AT&T/WorldCom believe this is even remotely relevant.

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1 while the “proposed later remed[y]”<sup>55/</sup> indeed was not implemented, the  
2 necessary information was nonetheless reliably gathered through other  
3 means; it thus is difficult to understand the point behind  
4 AT&T/WorldCom’s criticism. And Verizon’s response concerning how  
5 to calculate loop length for loops terminating over a customer’s private  
6 property (explained above) was not “stopgap,” but correct — loop lengths  
7 were set at the feeder length, and the loop cost studies consequently (and  
8 appropriately) excluded the cost of distribution facilities where such  
9 facilities are not owned by Verizon VA.

10  
11 **Q. AT&T/WorldCom also criticize Verizon for assuming by “default”**  
12 **the use of buried cable plant. [AT&T/WorldCom Rebuttal Panel at**  
13 **13 n.15.] Did this assumption affect the survey data?**

14 A. No. As AT&T/WorldCom note, Verizon did assume a default of buried  
15 cable in the survey question concerning distribution structure type if the  
16 engineer did not specify a different structure type. Verizon made this  
17 assumption because most new developments do in fact require buried  
18 distribution cable, and the survey instructions clearly noted that this  
19 default would be assumed if no response were provided. But in any event,  
20 the default distribution structure type rarely had to be assumed, because  
21 the overwhelming majority of engineers did in fact specify the  
22 predominant distribution structure type for each UAA. Finally, it is worth

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<sup>55/</sup> AT&T/WorldCom Rebuttal Panel at 15.

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1 noting that buried plant is not more expensive than underground cable,  
2 when conduit cost is included, and thus it is unclear what impact  
3 AT&T/WorldCom believe the default would have had, even had it been  
4 widely used.

### 2. The Use of Actual Distribution Areas

7 **Q. Is there any merit to the AT&T/WorldCom Rebuttal Panel's**  
8 **suggestion that Verizon VA's cost studies seek to recover overstated,**  
9 **"embedded costs" because they are based on existing distribution**  
10 **areas ("DAs"), and thus fail to capture the efficiencies of DLC**  
11 **technology? [AT&T/WorldCom Rebuttal panel at 17-18.]**

12 **A.** No. AT&T/WorldCom allege that Verizon VA assumes that a 224-line  
13 remote terminal will serve DAs in which there are fewer than 50 working  
14 lines, resulting in a highly inefficient RT utilization rate of 10% for such  
15 small DAs. But this argument utterly misrepresents Verizon VA's cost  
16 studies. Verizon VA's loop cost studies do not calculate loop costs by  
17 building a hypothetical inventory of 224-line or larger RTs and then  
18 allocating the costs of those RTs to existing demand. Rather, the loop cost  
19 studies calculate the cost per installed unit of capacity (*i.e.*, an individual  
20 DS0 circuit) assuming that a 224-line or larger RT is used. These larger  
21 RTs happen to have lower per-circuit costs than the smaller available RT  
22 sizes, but, in any event their use in small DA's is not assumed by the  
23 company for the calculation of utilization factors. Rather, utilization  
24 factors are calculated separately based on engineering judgments and

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1 experience in the network, and it is these resulting factors that are used to  
2 ensure that the costs of efficient spare capacity in the network are  
3 recovered. Thus, the 224-line RT used in developing loop costs has no  
4 impact whatsoever on Verizon VA's utilization factors, and the alleged  
5 utilization rate "inefficiencies" resulting from the cost studies' use of 224-  
6 line RTs are entirely fictional. Indeed, Verizon VA's use of unit costs  
7 based on the larger RTs produces lower total loop costs than would have  
8 been produced using the much higher unit costs of 96-line RTs.

9  
10 We note, moreover, that AT&T/WorldCom are pointing to a tiny  
11 fraction (less than 70,000 lines, or less than 2% of the total working lines  
12 in Virginia) of the over three million lines in Verizon VA's network (*i.e.*,  
13 only those in sparsely-populated DAs with 50 or fewer total lines) to make  
14 their point.<sup>56/</sup> The point is not only erroneous, but its insignificance belies  
15 their claim that the whole study is corrupted.

16  
17 **Q. AT&T/WorldCom also suggest that Verizon VA's cost studies could**  
18 **be adjusted by regrouping DAs "based on actual customer locations"**

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<sup>56/</sup> It is worth noting that, even if it were conceivable that Verizon VA's use of per-unit costs from 224-line RTs in some way overstated costs in these smaller DAs — and this is simply not the case — such an overstatement would primarily affect the rates calculated for the rural density zone. The other two density zones would be completely unaffected by any such alleged overstatement.

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1        **in order to achieve lower UNE rates. [AT&T/WorldCom Rebuttal**  
2        **Panel at 18.] Please respond.**

3        A.     The suggestion makes no sense. First, AT&T/WorldCom expressly  
4        admitted in response to an interrogatory request in these proceedings that  
5        Verizon VA's DAs are based on existing customer locations.<sup>57/</sup> Indeed,  
6        Verizon VA's network design has to account for existing customer  
7        locations because the network has to be able to serve customers at those  
8        locations. By contrast, the purely hypothetical network design created by  
9        the Modified Synthesis Model has never been (and could never be) used to  
10       build a network that actually serves *any* customers at any locations as  
11       explained in Verizon's Rebuttal Testimony. Moreover, the small (fewer  
12       than 50 lines) DAs about which AT&T/WorldCom complain typically  
13       result from transmission limitations and efficiency concerns: If the  
14       customers in such small DAs were grouped into other DAs in the wire  
15       center, the distribution portion of the loop needed to connect them to the  
16       feeder portion of the loop would have to be far too long. If anything, such  
17       a regrouping likely would increase costs, contrary to AT&T/WorldCom's  
18       suggestion, because it would replace more efficient feeder facilities with  
19       less efficient distribution facilities.

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<sup>57/</sup> AT&T/WorldCom Response to VZ-VA 13-61.

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1   **Q.   Accordingly, do you believe AT&T/WorldCom have shown any**  
2       **reason that Verizon VA’s use of the data from Verizon engineering**  
3       **survey and existing DAs should be rejected?**

4   **A.   No. That data was obtained from the only network designed and proven to**  
5       **be able to serve Verizon’s Virginia customers. The use of such data is**  
6       **entirely appropriate and more realistic and reliable than a speculative,**  
7       **hypothetical approach, which is the only substitute AT&T/WorldCom can**  
8       **propose.**

9

10       **B.   AT&T/WORLDCOM’S SUGGESTION THAT**  
11       **VERIZON VA’S WORKING LINE COUNTS WERE**  
12       **DESIGNED TO UNDERSTATE COSTS IS**  
13       **BASELESS**

14   **Q.   Please explain AT&T/WorldCom’s attack on Verizon VA’s data on**  
15       **the number of loops in Verizon VA’s network.**

16   **A.   AT&T/WorldCom suggest that Verizon VA may have understated its**  
17       **costs by misstating its working line count.<sup>58/</sup> AT&T/WorldCom**  
18       **calculated that LCAM developed loop costs using a total line count of 3.4**  
19       **million working lines. AT&T/WorldCom compare this number to the 3.7**  
20       **million total working lines reflected in Verizon VA’s Loop Analysis**  
21       **Reporting and Tracking (“LART”) database, and 3.9 million lines in the**  
22       **LEAD database.<sup>59/</sup>**

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<sup>58/</sup>     See AT&T/WorldCom Rebuttal Panel at 19.  
<sup>59/</sup>     See *id.* at 18.

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1    **Q.    What accounts for these different total working line counts?**

2    A.    Verizon VA has identified an oversight in the LCAM algorithms that  
3           resulted in excluding certain loops from the total loop count due to a  
4           service name change that was changed without notice and a pair of  
5           transposed columns in the data load process. After correcting for this  
6           error, LCAM in fact produces the same total line count that is reflected in  
7           the LART database. The LEAD data, showing 3.9 million lines, includes  
8           certain non-working (*i.e.*, idle-assigned) pairs that in fact should have been  
9           excluded from the working lines count. When these non-working lines are  
10          excluded, the LEAD database shows 3.7 million lines as well. Verizon  
11          VA learned of these errors only after reviewing AT&T/WorldCom's  
12          testimony.

13

14   **Q.    How do these different line counts affect the loop cost study?**

15   A.    The understatement of total working pairs in LCAM produces a relatively  
16          small overstatement of loop costs.<sup>60/</sup> Attachment I is a summary showing  
17          the restated loop UNE costs after correction of the overstatement of loop  
18          costs resulting from the LCAM error (and adjustment to certain VRUC

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<sup>60/</sup>        The reason for this overstatement is that LCAM uses working line counts to determine the appropriate size of DLC equipment and distribution cable. LCAM then identifies the relevant unit costs based on the appropriate size determination. In some (but not all) cases, the understatement of working lines would cause LCAM to choose smaller DLC equipment or distribution cables, with higher per-unit costs.

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1 data, discussed below).<sup>61/</sup> Verizon VA's use of an inadvertent  
2 overstatement of working lines in LEADS when calculating the  
3 distribution utilization factor had the effect of *increasing* that utilization  
4 factor, which in turn *reduces* loop UNE costs. Verizon VA does not  
5 intend to correct the inadvertent *understatement* of costs resulting from the  
6 LEADS error, however. Thus, the resulting costs should satisfy any of  
7 AT&T/WorldCom's concerns with respect to the error they identified in  
8 their rebuttal testimony.

9  
10 **C. VERIZON VA'S ASSUMPTIONS CONCERNING**  
11 **DEPLOYMENT OF DIGITAL LOOP CARRIER**  
12 **SYSTEMS ARE REALISTIC AND FORWARD-**  
13 **LOOKING**

14 **Q. Please explain Verizon VA's treatment of integrated digital loop**  
15 **carrier (IDLC) versus universal digital loop carrier (UDLC) in its**  
16 **forward-looking network construct.**

17 **A.** As explained in the Verizon Panel Direct, Verizon VA assumed that its  
18 current deployment practices for IDLC, which are efficient and  
19 aggressive, would be deployed throughout the network, resulting in an  
20 assumption, for recurring cost purposes, of 82.3% of the loops being fiber-  
21 fed DLC, with 70% of these using IDLC and 30% using UDLC. In  
22 reality, Verizon VA is not likely to achieve this level of IDLC penetration  
23 during the planning period or indeed for the foreseeable future, if at all,  
24 but this was considered an aggressive, forward-looking assumption.

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<sup>61/</sup> See Attachment I.

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1 Verizon VA's current deployment practice and plan is designed to deploy  
2 a significant amount of IDLC while still retaining UDLC in the network.  
3 While the former offers several efficiency advantages, UDLC remains  
4 necessary to provision unbundled loops to CLECs, among other things, as  
5 explained by the Verizon Panel Direct. It thus is necessary that Verizon  
6 VA maintain a portion of that technology in the network.

7  
8 **Q. But AT&T/WorldCom Recurring Panel argues that Verizon VA has**  
9 **failed to include sufficient IDLC (and has included too much UDLC)**  
10 **in its forward-looking network. Do you agree with this criticism?**  
11 **[AT&T/WorldCom Rebuttal Panel at 19-23.]**

12 A. No. First, as explained in the Verizon Panel Direct, UDLC is needed in  
13 the network for several reasons such as certain non-switched services or  
14 creating circuits that connect a fiber-fed loop to a copper-fed loop.  
15 Indeed, notwithstanding that IDLC has been around for almost two  
16 decades, Verizon VA has seen fit to continue to deploy UDLC in the  
17 network. AT&T/WorldCom's suggestion that UDLC is not necessary for  
18 such purposes is simply a one-sentence conclusory denial.<sup>62/</sup> Moreover,  
19 AT&T/WorldCom's argument that UDLC is unnecessary even for loop  
20 unbundling hinges on the assertion that it is possible to unbundle IDLC  
21 loops using currently available technology. While Verizon acknowledged  
22 in the Verizon Panel Direct that it is hypothetically "possible" to provision

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<sup>62/</sup> See AT&T/WorldCom Rebuttal Panel at 23.

## Verizon VA Recurring Cost Panel Surrebuttal Testimony

1 unbundled loops through IDLC using the GR-303 interface, it has become  
2 clear that the industry was optimistic in its forecast of the actual  
3 development and deployment of the technology and capabilities needed  
4 for such unbundling. Although AT&T/WorldCom suggest that all such  
5 issues - including the necessary OSS - will be resolved in the forward-  
6 looking network,<sup>63/</sup> they provide no basis for this assertion whatsoever.  
7 They simply assert in a conclusory manner that in the forward-looking  
8 network, “there is no doubt that a carrier . . . would use GR-303 and would  
9 work with vendors to put in place the OSS to unbundled the GR-303,”  
10 suggesting that the problem to date has been an absence of ILEC  
11 “incentive” to address the development issues.<sup>64/</sup>

12  
13 The facts belie this argument, however. Verizon VA, for one, has  
14 been committed to addressing IDLC loop unbundling issues, but CLECs  
15 have been reluctant to provide the data that might permit development of  
16 the necessary technology and identification of the related costs. For  
17 example, in late 1998, in response to a WorldCom request for an IDLC-  
18 unbundled DS1 circuit, Bell Atlantic-NY requested WorldCom’s input to  
19 define and develop the required technical arrangements. Bell Atlantic  
20 identified numerous issues for which it requested WorldCom’s input,  
21 including the desired configuration, software requirements, central office

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<sup>63/</sup> *Id.* at 29-30.

<sup>64/</sup> *Id.* at 29.

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1 and RT surveillance capabilities, “access port” hardware; trouble/fault  
2 identification and testing, traffic engineering, and other technical  
3 operational matters.<sup>65/</sup> To help expedite the development process, Bell  
4 Atlantic inquired whether WorldCom was aware of any carrier that had  
5 commercially implemented either a multi-switch hosting GR-303 interface  
6 or a cross-connect DS1 handoff — the two means of IDLC-GR-303  
7 unbundling that AT&T/WorldCom insist are readily deployable.  
8 WorldCom admitted that neither had been deployed.<sup>66/</sup> Ultimately, after  
9 Bell Atlantic did preliminary work and proposed a price quote regarding  
10 the necessary technical development work, WorldCom backed off its  
11 request.

12  
13 A year later, Bell Atlantic and several CLECs attended a meeting  
14 with New York Commission staff concerning IDLC-GR-303 unbundling.  
15 At this September 9, 1999 technical meeting, Bell Atlantic was asked to  
16 create a set of detailed questions concerning the CLEC’s technical  
17 requirements for IDLC Loop unbundling. WorldCom, which coordinated  
18 the response of the participating CLECs, provided only a partial response  
19 in December 1999, noting again in the accompanying cover letter that it  
20 was aware of no carrier to have deployed GR-303 multihosting between  
21 carriers. WorldCom and the other CLECs never provided the necessary

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<sup>65/</sup> See Attachment J (email correspondence between WorldCom and Bell Atlantic-NY).

<sup>66/</sup> See *id.*

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1 missing information, even after Bell Atlantic sent out a second request and  
2 offered to proceed with a technical analysis once all information had been  
3 submitted. More recently, Verizon has been supporting Telcordia's  
4 Industry Forum, which looks at GR-303 issues, including multihosting.  
5 This industry forum includes vendors, ILECs and CLECs. The forum has  
6 not yet developed any final solutions for unbundling loops using the GR-  
7 303 interface.

8  
9 Clearly, Verizon (and other ILECs) has not been sitting idly by,  
10 refusing to investigate or analyze the technological requirements for  
11 IDLE-GR-303 unbundling. However, the issues, which center on the  
12 functional capabilities and security of the GR-303 RTs and digital  
13 switches (and not principally on OSS, as AT&T/WorldCom seek to  
14 suggest)<sup>67/</sup>, simply have not been resolved. Nor, as illustrated, have the  
15 CLECs been able to resolve the issues either. Nonetheless, they continue  
16 to use the IDLC-GR-303 argument to artificially reduce loop costs without  
17 adjusting those costs to include the actual new costs that inevitably will be  
18 identified in connection with developing any such new capabilities.

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<sup>67/</sup> AT&T/WorldCom Rebuttal Panel at 31. AT&T/WorldCom's suggestion that IDLC unbundling could be resolved by simple OSS developments or manual ordering avoids entirely the far more significant technical issues that must be resolved before such unbundling can be provisioned at all.

## Verizon VA Recurring Cost Panel Surrebuttal Testimony

1    **Q.    Should Verizon VA have included less UDLC in its forward-looking**  
2           **network to be consistent with TELRIC principles?**

3    A.    No. As noted above, and explained in the Verizon Panel Direct, the  
4           technology and capabilities necessary for the GR-303 interface to support  
5           unbundling have not yet been developed or deployed in any network,  
6           much less Verizon VA's. It thus is critical that Verizon VA maintain  
7           UDLC in its network, so that individual fiber-fed unbundled loops may be  
8           de-multiplexed and connected to the MDF, where they can then be cross-  
9           connected to the CLEC point of presence. Only by hypothesizing or  
10          fantasizing about the existence of GR-303 unbundling capabilities (and by  
11          ignoring the other applications for which UDLC is necessary) can  
12          AT&T/WorldCom justify excluding all or most UDLC from Verizon  
13          VA's forward-looking network. Yet, as the FCC explained to the  
14          Supreme Court just last month, TELRIC costs must be based on the costs  
15          of "equipment that is commercially available today — equipment that  
16          carriers are already using to upgrade and expand their networks."<sup>68/</sup> The  
17          Commission has endorsed this view since its original UNE orders.<sup>69/</sup>

18

19                 Indeed, AT&T itself acknowledged in *its* brief before the Supreme  
20          Court that TELRIC rates must "be based on the most efficient technology

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<sup>68/</sup>       FCC Reply Brief at 6.

<sup>69/</sup>       See Local Competition Order at ¶ 685 (forward-looking costs  
should be based on the most efficient technology "deployed in the incumbent  
LEC's current wire centers.")

## Verizon VA Recurring Cost Panel Surrebuttal Testimony

1 proven to be ‘operationally feasible and currently available.’”<sup>70/</sup> Yet here,  
2 AT&T/WorldCom allege that Verizon VA’s loop costs should be based on  
3 assumptions concerning technology and OSS that do not exist, that have  
4 not been proven to be operationally feasible, and that accordingly have not  
5 been deployed by Verizon VA by any other ILEC that AT&T or  
6 WorldCom has been able to identify. As AT&T/WorldCom admit today,  
7 just as was true in 1998, neither is aware “of any arrangements with any  
8 ILEC using one or more of [the] methods” they advocate for unbundling  
9 loops using DLC.<sup>71/</sup> Seeking to have Verizon VA establish loop costs  
10 based on hypothetical technology — *the full costs of which are not even*  
11 *factored into AT&T/WorldCom’s analysis, much less Verizon VA’s* — that  
12 has never been tested, and which is not now deployed nor soon to be  
13 deployed in the future, is a senseless and entirely unsound approach.

14  
15 **Q. AT&T/WorldCom charge that Verizon VA’s “minimal” inclusion of**  
16 **GR-303 in its network construct and that this is not forward-looking.**  
17 **Is that correct? [AT&T/WorldCom Rebuttal Panel at 26-30.]**

18 A. No. Verizon VA assumes that the deployment of GR-303 in its forward-  
19 looking network would be far greater than it is today.

20 AT&T/WorldCom’s argument assumes a scorched-node approach in

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<sup>70/</sup> Reply Brief of AT&T Corp., *AT&T Corp. v. Iowa Utilities Board*, No. 00-590 at 16-17 (July 23, 2001) (“AT&T Reply Brief”) (internal citation and quotation marks omitted).

<sup>71/</sup> AT&T/WorldCom Response to VZ-VA 7-26. (Attachment A.)

## Verizon VA Recurring Cost Panel Surrebuttal Testimony

1        which a carrier must be assumed to rebuild its network entirely every few  
2        years to reflect technological developments. This is neither required nor  
3        appropriate. Rather, as Dr. Shelanski explained in his Direct Testimony,  
4        an economically appropriate TELRIC study should reflect the efficient,  
5        forward-looking technology deployment (and replacement) decisions that  
6        a carrier would make in developing a forward-looking network.<sup>72/</sup> It is  
7        reasonable to assume that such a forward-looking network will reflect  
8        significant new investment in GR-303. But there is no reason to replace  
9        all TR-008 technology, which is not defunct (and which, contrary to  
10        AT&T/WorldCom's suggestions, is in many cases more reliable than  
11        highly concentrated GR-303).<sup>73/</sup> Nor is there any merit to  
12        AT&T/WorldCom's suggestion that the forward-looking network should  
13        reflect the optimal use of GR-303 advocated by Verizon VA's growth  
14        guidelines.<sup>74/</sup> The guidelines are goals that encourage the use of GR-303  
15        IDLC in growth scenarios, where new plant is being added to the network.  
16        It will not always be possible or efficient to install GR-303 even in all  
17        such growth scenarios, because of the need to coordinate switch and  
18        feeder deployment. Nonetheless, Verizon VA's approach actually  
19        assumes not just growth but also replacement of TR-008 with GR-303, a  
20        position broader than what the guidelines suggest.

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<sup>72/</sup> Shelanski Direct at 6; *see also* Tardiff Rebuttal.

<sup>73/</sup> AT&T/WorldCom Rebuttal Panel at 26.

<sup>74/</sup> *Id.* at 28.

**Verizon VA Recurring Cost Panel Surrebuttal Testimony**

1    **Q.    The AT&T/WorldCom Rebuttal Panel claims that the percentages of**  
2           **IDLC and UDLC and of GR-303 versus TR-008 in Verizon VA's**  
3           **network construct reflect nothing more than Verizon VA's current**  
4           **deployment. Is there any merit to this criticism? [AT&T/WorldCom**  
5           **Rebuttal Panel at 26.]**

6    A.   No. Verizon VA made an aggressive assumption that the forward-looking  
7           network would, as a whole, reflect the widespread deployment of DLC,  
8           resulting in 82.3% of the network served by DLC. This is more than two  
9           and one-half times the company's current network deployment of DLC  
10          and much greater than the foreseeable results of its actual deployment  
11          plan. Though Verizon VA did look to its recent deployment of UDLC and  
12          IDLC in determining its forward-looking plan for the relative deployment  
13          of UDLC and TR-008 IDLC in the network, Verizon VA nevertheless  
14          assumed a much higher overall level of fiber-fed facilities in the forward-  
15          looking network than the 33% of all lines using fiber fed DLC that  
16          Verizon VA currently has or expects to have in the near future. Similarly,  
17          if Verizon VA were relying on its current network and current plans, as  
18          AT&T/WorldCom suggest, there would have been no basis to assume  
19          10% GR-303 in Verizon VA's forward-looking network construct; in fact,  
20          Verizon VA would have estimated none at all, or at least a far smaller  
21          amount.

22